Feb. 63

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PROJECT STATUS REPORT

INSTRUCTIONS

ITEM 8 Entries will be taken from codes listed on page 3.

ITEM 20 Enter concise project progress information sufficiently complete so that reference to other reports will not be necessary. Changes in program scheduling should be fully explained. If additional space is required, a separate 8 x 10½ sheet will be used. Identify particular report and mark proper security classifications.

1. PROGRAM STRUCTURE	2. PROJECT NR OR SYSTEM TEST OBJ NR	3. TASK, ESP OR TEST NUMBER
921A		62B01
4. AFFTC PROJECT DIRECTIVE NR	**5. ARDC PRIORITY**	**6. REPORTING PERIOD**
62-17	20F	February 1963

7. TITLE AND OBJECTIVE EXPERIMENTAL PERSONNEL PARACHUTE (MULTI-STAGE)

To determine the opening reliability of a multi-stage parachute assembly to be used by parachutist from high altitudes.

8. SCHEDULE

	CURRENT FY 63												FY 64												FY 65 QTRS				FY 66 QTRS			
	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	1st	2d	3d	4th	1st	2d	3d	4th
CURRENT SCHEDULE																																
NEW SCHEDULE																																
CHG CODE J								4	D	4	3	R																				

9. FIRST FLIGHT/TEST	10. LATEST FLIGHT/TEST	11. FINAL FLIGHT/TEST	12. TOTAL FLIGHT HRS REQ	13. ACFT SERIAL NR

14. % PLANNING COMPLETED	15. % INSTRUMENTATION COMPLETED	16. % TESTING COMPLETED	17. % DATA REDUCTION COMPLETED	18. % REPORT COMPLETED	19. % TOTAL COMPLETED
10/70	5/80	70/85	10/85	5/0	100/79

20. REMARKS

LIC 9121 WSC 3

Tests completed: 220

Tests documented: 227

Aircraft hours flown to date:

Test		Photo	
C-130	54.1	T-28	23.4
B-66	32.0	T-33	54.5
		B-57	6.0
		F-104	1.5
		F-100	14.0
		H-21	19.0
		T-38	4.0

Documented aircraft hours remaining:

Test		Photo	
C-130	15.0	T-33	0
B-66	0	F-100	0

Four tests were made from the bomb bay of a B-66 aircraft to record riser force versus time data on a 78-inch D_o HF stabilization parachute and to determine the reliability of the multi-stage parachute assembly components. Test information follows:

21. DATE	22. OFFICE SYMBOL AND TELEPHONE EXT	23. SIGNATURE OF PROJECT OFFICER
28 February 1963	FTLGM/266	Charles O. Laine CWO Charles O. Laine

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first stage reefing line was 18 feet long and the second stage reefing line was 28 feet long. The first stage reefing line was equipped with two 4-second time-delay reefing line cutters; the second stage reefing line was equipped with two 12-second time-delay reefing line cutters.

Test No. 0136 was conducted with a cluster of four 100-ft. D_o CS SS recovery parachutes as the test items. A 21,200-lb. cylindrical vehicle was the suspended load. Each parachute was reefed with a 20-ft. reefing line equipped with two 10-second time-delay reefing line cutters. A 6-ft. D_o RGS pilot chute was stowed inside of each recovery parachute bag and permanently attached to the apex of the recovery parachute. A 15-ft. D_o RS deployment parachute was attached to the recovery parachute bags by a 30-ft. bridle to each bag. The 21,200-lb. cylindrical vehicle was rigged to a platform to facilitate launching from the C-130 aircraft. The platform and the cylindrical vehicle were extracted from the aircraft by a 22-ft. D_o RS extraction parachute. After the platform exited from the aircraft, two 35-ft. D_o ES MC-1 chutes were deployed by static line and cut the binder straps which held the test vehicle to the platform and deployed a 100-ft. D_o FC platform recovery parachute. After the vehicle separated from the platform a static line attached to the platform was to deploy the deployment parachute which in turn was to deploy the cluster parachutes. However, the handle tore away from the deployment bag and the parachute did not deploy. Consequently, the cluster of recovery parachutes did not deploy. The vehicle was heavily damaged at impact.

Test information follows:

Drop	Launch IAS (kt)	Launch altitude (ft)	1st stage reefed open force (lb)	2d stage reefed open force (lb)	Full open force (lb)	Remarks
155	200	3000	14,500	---	20,800	(1)
181	200	4000	12,000	9200	18,100	(2)
160	150	5000	---	---	---	-

(1) Damage consisted of 7 broken vent lines, many strained seams and broken stitching.
(2) Damage consisted of many strained seams and broken stitching.

Program Structure 921A, EXPERIMENTAL PERSONNEL PARACHUTE (MULTI-STAGE) (Cont'd)

Drop	Launch TAS (kt)	MSL altitude (ft)	Pack opening TAS (kt)	Gross weight (lb)	Riser force left (lb)	Riser force right (lb)	Remarks
0151	520	21,250	330	319	-	3035	(1)(2)(3)(4)
0152	525	21,350	358	331	2860	2525	(5)
0187	-	--	-	322	-	-	(6)(7)(8)
0188	487	20,750	435	322	2790	3145	(8)(9)

(1) Both legs of the articulated dummy were broken off at the knees. Orange paint from the seat kit was imbedded in the coveralls in the knee area.

(2) Both right and left reinforced, bottom footman loops were broken.

(3) The automatic ripcord release used for main canopy deployment was distorted within the protector pan. The wooden support block on the seat survival kit was separated from the seat kit.

(4) The telemetric package failed to transmit force data for the left side riser group at the peak force - time increment.

(5) The main canopy deployed prematurely just after full open of the stabilization parachute. The main canopy did not inflate because the left side Rocket Jet canopy release separated. The dummy free fell to impact and was destroyed.

(6) Cinetheodolite data for this test had to be re-run through the AFFTC computer and were not available for this report.

(7) Evaluation of the 16mm air-to-air and bomb bay-to-air motion picture coverage showed that both Rocket Jet canopy releases for main canopy retention to the parachute harness opened inadvertently during deployment of the stabilization parachute. The main canopy deployed on schedule, 39 seconds after launch, but with both canopy releases disconnected the dummy and main canopy separated and the dummy free fell to impact and was destroyed.

(8) Two 18-inch pack retention straps were attached to both lower corners of the main parachute pack and secured at the center of the seat sling to retain the pack during airblast exposure.

(9) The front leg supports of the seat survival kit were removed for this test.

PROJECT STATUS REPORT

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1. PROGRAM STRUCTURE	2. PROJECT NR OR SYSTEM TEST OBJ NR	3. TASK, ESP OR TEST NUMBER
921A	-	62B04
4. AFFTC PROJECT DIRECTIVE NR	**5. ARDC PRIORITY**	**6. REPORTING PERIOD**
62-32	75A	February 1963

7. TITLE AND OBJECTIVE

HUMAN FREE-FALL TRAJECTORIES

To determine trajectories for human bodies in controlled and uncontrolled positions.

8. SCHEDULE	CURRENT FY 63												FY 64												FY 65 QTRS				FY 66 QTRS			
	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	1st	2d	3d	4th	1st	2d	3d	4th
CURRENT SCHEDULE								D	R	R																						
NEW SCHEDULE																																
CHG CODE																																

9. FIRST FLIGHT/TEST	10. LATEST FLIGHT/TEST	11. FINAL FLIGHT/TEST	12. TOTAL FLIGHT HRS REQ	13. ACFT SERIAL NR

14. % PLANNING COMPLETED	15. % INSTRUMENTATION COMPLETED	16. % TESTING COMPLETED	17. % DATA REDUCTION COMPLETED	18. % REPORT COMPLETED	19. % TOTAL COMPLETED
10/90	10/80	50/100	20/80	10/0	100/83

20. REMARKS

LIC 9126 WSC 3

Tests completed: 77 Tests documented: 96

Aircraft hours flown to date:

Test	Photo
C-130 - 25.7	None

Documented aircraft hours remaining:

Test	Photo
C-130 - 22.3	None

Testing has been terminated. The final report is being written.

21. DATE	22. OFFICE SYMBOL AND TELEPHONE EXT	23. SIGNATURE OF PROJECT OFFICER
28 February 1963	FTLGM/266	Lt. R. J. Pranger

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